

IN THE UNITED STATES PATENT OFFICE

Applicant: Steven M. Arnold
Nicholas Penney

Serial No.:

Filed: October 23, 2003

For: TORSIONAL MAGNETORHEOLOGICAL DEVICE

Kent Stone, Reg. No. 31883
Cleveland, Ohio

COMMISSIONER OF PATENTS
AND TRADEMARKS
P. O. Box 1450
Alexandria, Virginia 22313

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 C.F.R. §§1.97 AND 1.98

Dear Sir:

A. Applicant hereby discloses the following United States Patent(s)/ Patent

Application Documents and Foreign Patents pursuant to 37 C.F.R. §1.98:

<u>Patent No.</u>	<u>Issue Date/ Pub. Date</u>	<u>Inventor</u>
1. US 6,371,267 B1	April 16, 2002	Kao et al.
2. US 5,779,013	July 14, 1998	Bansbach
3. US 5,845,753	December 8, 1998	Bansbach
4. US 6,527,661 B2	March 4, 2003	Leeper
5. US 4,611,697	September 16, 1983	Okita et al.
6. US 6,340,080	January 22, 2002	Carlson

Sent to Addressee using Express Mailing Label
No. ER 577622447 45 on this
23 day of October, 2003.
Kent N. Stone
Kent N. Stone

7. US 5,598,908	February 4, 1997	York et al.
8. US 6,302,249 B1	November 16, 2001	Jolly et al.
9. US 6,117,093	September 12, 2000	Carlson
10. US 5,993,358	November 30, 1999	Gureghian et al.
11. US 5,816,372	November 6, 1998	Carlson et al.
12. US 5,842,547	December 1, 1998	Carlson et al.
13. US 2001/0052893 A1	December 20, 2001	Jolly et al.
14. US 5,810,696	September 22, 1998	Webb
15. US 5,007,513	April 16, 1991	Carlson
16. US 6,318,522 B1	November 20, 2001	Johnston et al.
17. US 6,152,272	November 28, 2000	Agnihotri et al
18. US 5,947,238	September 7, 1999	Jolly et al.

B. A copy of each patent/ patent document is included herewith pursuant to 37 C.F.R. §1.98.

C. Explanation of Relevance pursuant to 37 C.F.R. §1.98.

1. 1. US Patent No. 6,371,267 B1 issued April 16, 2002 to Kao et al. discloses a liquid cooled magnetorheological fluid clutch for automotive transmissions.

2. US Patent No. 5,779,013 issued July 14, 1998 to Bansbach discloses a torque transfer apparatus using magnetorheological fluids.

3. US Patent No. 5,845,753 issued December 8, 1998 to Bansbach discloses

torque transfer apparatus using magnetorheological fluids.

4. US Patent No. 6,527,661 B2 issued March 4, 2003 to Leeper discloses a limited slip differential having a magnetorheological fluid brake.

5. US Patent No. 4,611,697 issued September 16, 1983 to Okita et al. discloses an electromagnetic powder coupling with cooling fins.

6. US Patent No. 6,340,080 issued January 22, 2002 to Carlson discloses an apparatus including a matrix structure.

7. US Patent No. 5,598,908 issued February 4, 1997 to York et al. discloses a magnetorheological fluid coupling device and torque load simulator system.

8. US Patent No. 6,302,249 B1 issued November 16, 2001 to Jolly et al. discloses a linear acting controllable pneumatic actuator and motion control apparatus including a field responsive medium and control method therefor.

9. US Patent No. 6,117,093 issued September 12, 2000 to Carlson discloses a portable hand and wrist rehabilitation device.

10. US Patent No. 5,993,358 issued November 30, 1999 to Gureghian et al. discloses a controllable platform suspension system for treadmill decks and the like and devices therefor.

11. US Patent No. 5,816,372 issued November 6, 1998 to Carlson et al. discloses a magnetorheological fluid device and process of controlling force in exercise equipment

12. US Patent No. 5,842,547 issued December 1, 1998 to Carlson et al. discloses a

controllable brake.

13. US Patent Application Publication No. 2001/0052893 A1 was published on December 20, 2001, inventors, Jolly et al., and discloses a magnetically controllable semi active haptic interface system and apparatus.

14. US Patent No. 5,810,696 issued September 22, 1998 to Webb discloses exercise apparatus and associated method including a rheological fluid brake.

15. US Patent No. 5,007,513 issued April 16, 1991 to Carlson discloses an electro active fluid torque transmission apparatus with a ferro fluid seal.

16. US Patent No. 6,318,522 B1 issued November 20, 2001 to Johnston et al. discloses a rotary damper with magnetic seals.

17. US Patent No. 6,152,272 issued November 28, 2000 to Agnihotri et al discloses a magnetic particle damper apparatus.

18. US Patent No. 5,947,238 issued September 7, 1999 to Jolly et al. discloses a passive magnetorheological fluid device with an excursion dependent characteristic.

Please charge deposit account ~~14-0116~~ if any fee deficiency exists.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kent Stone", written over a horizontal line.

Kent Stone
NASA Glenn Research Ctr
Office Of Chief Counsel
21000 Brookpark Rd
Cleveland OH USA 44135

216-433-8855
Reg No. 31883

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	
Filing Date	
First Named Inventor	Arnold
Art Unit	
Examiner Name	
Attorney Docket Number	LEW 17,510

Sheet **1** of **1****U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 6,371,267 B1	04-16-2002	KAO ET AL	ENTIRE DOCUMENT
		US- 5,779,013	07-14-1998	BANSBACH	ENTIRE DOCUMENT
		US- 5,845,753	12-08-1998	BANSBACH	ENTIRE DOCUMENT
		US- 6,527,661 B2	03-04-2003	LEEPER	ENTIRE DOCUMENT
		US- 4,611,697	09-16-83	OKITA ET AL.	ENTIRE DOCUMENT
		US- 6,340,080	01-22-2002	CARLSON	ENTIRE DOCUMENT
		US- 5,598,908	02-04-1997	YORK ET AL.	ENTIRE DOCUMENT
		US- 6,302,249 B1	10-16-2001	JOLLY ET AL.	ENTIRE DOCUMENT
		US- 6,117,093	09-12-2000	CARLSON	ENTIRE DOCUMENT
		US- 5,993,358	11-30-1999	GUREGHIAN ET AL.	ENTIRE DOCUMENT
		US- 5,816,372	10-06-1998	CARLSON ET AL.	ENTIRE DOCUMENT
		US- 5,842,547	12-01-1998	CARLSON ET AL.	ENTIRE DOCUMENT
		US- 2001/0052893 A1	12-20-2001	JOLLY ET AL.	ENTIRE DOCUMENT
		US- 5,810,696	09-22-1998	WEBB	ENTIRE DOCUMENT
		US- 5,007,513	04-16-1991	CARLSON	ENTIRE DOCUMENT
		US- 6,318,522 B1	11-20-2001	JOHNSTON ET AL.	ENTIRE DOCUMENT
		US- 6,152,272	11-28-2000	AGNIHOTRI ET AL.	ENTIRE DOCUMENT
		US- 5,947,238	09-07-1999	JOLLY ET AL.	ENTIRE DOCUMENT
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	† ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form on the amount of time you require to complete this form and/or suggestions for and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
If you need assistance in completing the form, call

Sent to Addressee using Express Mailing Label
No. **ER 57762247 US** on this
23 day of **October**, 2003.

Kent N Stone
Kent N. Stone